

Claims

What is claimed is:

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1. A system for visually monitoring a semiconductor processing system, comprising:  
an enclosed processing chamber of the system having an interior; and  
an image collector associated with the chamber for collecting images of the interior of the chamber and providing a signal indicative of a visual representation of interior of the chamber.
2. The system of claim 1 further including a light source associated with the chamber for illuminating the interior of the chamber so as to enable the image collector to obtain a visible image of the interior of the chamber.
3. The system of claim 2, wherein the light source is a light emitting diode.
4. The system of claim 2, wherein the light source is a fiber optic cable having a light emitting portion located within the chamber for illuminating the interior of the chamber.
5. The system of claim 2 wherein the chamber is part of a coater unit of the system for providing a photoresist material onto a substrate, the light source providing light at a wavelength so as not to expose the photoresist material.
6. The system of claim 2 wherein the chamber is part of a developer unit of the system for developing photoresist material on a substrate, the light source providing light at a wavelength so as not to expose the photoresist material.
7. The system of claim 2, wherein the image collector further includes a camera module for collecting the images and providing an electrical signal indicative of a visual representation of the interior of the chamber.

8. The system of claim 7, wherein the camera module is connected with one end of a fiber optic cable, a lens being connected with another end of the fiber optic cable for collecting the images from the interior of the chamber and providing the image signal to the camera module, the camera module converting the image signal into the electrical signal.

9. The system of claim 8, wherein the lens is faceted for receiving reflected light from a plurality of discrete directions within the chamber so that the image signal is formed of an image from each of the discrete directions.

10. The system of claim 7, further including a viewing station for receiving the electrical signal and displaying a visual representation of the interior of the chamber according to the electrical signal.

11. The system of claim 10, wherein the viewing station includes a controller for selectively controlling activation of the camera module.

12. The system of claim 11, wherein the controller further controls the light source.

13. The system of claim 1 wherein image collector includes a fiber optic cable having a light receiving end disposed within the chamber for collecting images of the interior of the chamber, another end of the fiber optic cable being operatively connected to a camera module for providing the image signal indicative of a visual representation of the interior of the chamber, the camera module converting the image signal into an electrical signal indicative of a visual representation of the interior of the chamber.

14. The system of claim 13, wherein the light receiving end of the fiber optic camera includes a lens for receiving light from a plurality of discrete directions within the chamber so that the image signal is formed of an image from each of the discrete directions.

15. A system for visually monitoring an internal part of a semiconductor processing system, comprising:

imaging means for collecting images of an interior of an enclosed processing chamber and providing an image signal indicative of a visual representation of the interior of the chamber; and

viewing means for receiving the image signal and providing a visual representation of the interior of the chamber.

16. The system of claim 15 wherein the imaging means includes a camera having a lens portion located within the chamber to collect the images and provide the image signal.

17. The system of claim 15, further including illumination means for illuminating the interior of the chamber to facilitate collecting images of the interior of the chamber by the camera.

18. The system of claim 17, further including means for selectively controlling at least one of the camera and the illumination means.

19. A method for visually monitoring an interior of an enclosed processing chamber in a semiconductor processing system, comprising the steps of:

collecting visual images of the interior of the chamber and providing an image signal indicative thereof; and

displaying a visual representation of the interior of the enclosed chamber based on the image signal.

20. The method of claim 19, further including the step of illuminating the interior of the enclosed chamber to facilitate collecting of visual images.

21. The method of claim 20, wherein the step of illuminating includes emitting light within the chamber at a wavelength which does not interfere with processing within the chamber.

22. The method of claim 19, further including the step of controlling the steps of emitting and collecting so that the visual representation includes images of processing within the chamber.

23. The method of claim 19, wherein visual representation is displayed remotely from the semiconductor processing system.

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